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ABSTRACT

Two hypotheses were tested in this study designed to investigate relationships between teachers' approval of achievement efforts and achievement striving behavior in male kindergarteners. It was hypothesized that (1) Kindergarteners who possess feelings of internal reinforcement control would change positively in achievement striving in relation to the ratio of teacher's approval over disapproval for achievement behavior and (2) There would be no consistent relationships between independent and dependent variables for children who have not yet developed an adequate feeling of internal reinforcement control. Forty-five boys selected from four kindergarten classes and two teachers were observed over a 4-week period in the classroom. The data collected on independent and dependent variables supported the first hypothesis. The second hypothesis was partly supported: (a) achievement striving decreased as teachers' approval of achievement efforts increased for all of the children who were low on internal reinforcement control, (b) children low on internal reinforcement control did not show less achievement striving than those judged high, and (c) children rated high on dependency did show less achievement striving. This study suggests that kindergarten teachers may be able to assist pupils in the development of achievement striving by providing opportunities for successful and important achievement efforts and accompanying these with social approval. (WY)

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SOCIAL APPROVAL AND ACHIEVEMENT STRIVING IN THE KINDERGARTEN

by
Gunars Reimanis

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STANFORD CENTER FOR RESEARCH AND DEVELOPMENT IN TEACHING

The author of this report, Gunars Reimanis, has spent the 1967-68 year at the Stanford Center for Research and Development in Teaching on leave from his position at Corning Community College.

His year's research is concerned with an important educational problem: how do children develop achievement striving behavior and feelings of internal control over reinforcement for achievement? The hypothesis was supported that teachers' approval behaviors relate positively to children's achievement efforts if the child has acquired a feeling of internal reinforcement control.

Comments on this research will be welcomed by the author and by his sponsor.

Pauline S. Sears

June 12, 1968

SOCIAL APPROVAL AND ACHIEVEMENT STRIVING IN THE KINDERGARTEN

Gunars Reimanis[1, 2]

About twelve years ago Pauline Sears (1957) wrote about the correlates of achievement motivation in the classroom as a relatively neglected area in the study of child development. Mrs. Sears investigated the topic conceptually and with some preliminary data on sixth graders, and presented an outline that future research could follow. In 1960 (b), Crandall, et al. again pointed out that there was a general lack of knowledge about the development of achievement motivation, and provided a conceptual formulation for future research in this area.

During the past few years there have been a number of systematic studies in the field, mainly by Sears, Crandall, and their co-workers. During the same time contributions have also been made toward a better formulation of the general theory of achievement motivation. This has been accomplished primarily through the efforts of McClelland (1961, 1965), and Atkinson and Feather (1966) in this country, and Heckhausen (1967) in Europe. However, the topic of development of achievement motivation as such, especially in the early stages, has still remained largely ignored by the general achievement motivation theorists. Their research has used mostly adults or college and older high school students as subjects. In McClelland's system (1965) it seems that any change in achievement motivation, during child-

hood or later in life, would involve a change in the thought pattern or cognitive set. There is some evidence of changes in achievement motivation and achievement behavior as a result of thought manipulation (McClelland, 1965; Kolb, 1965).

Atkinson and Feather (1966), it appears, would view the development of achievement motivation as related directly to the development of hope for success and fear of failure. There is much research evidence, most of it reprinted in a book, edited by Atkinson and Feather (1966), supporting the view that hope for success and fear of failure are key concepts in understanding the construct of achievement motivation. These studies have contributed conceptually but not very much empirically toward understanding the development of achievement behavior.

Child development workers supporting the McClelland, Atkinson and Feather mode of thought in looking at achievement motivation seem to take as a starting point Winterbottom's study (1958) on the relationship between independence training and achievement motivation. McGhee and Teevan (1965), investigating the antecedents of motivation to avoid failure, report that mothers whose children were relatively high on the motive did not reward their children's satisfactory behavior in independence and achievement situations, but punished unsatisfactory behavior in these situations. Verof (1965) has proposed critical periods in independence training as important in developing motivational dispositions. Other investigators, however, have failed to support Winterbottom's findings. Field (1959) in a follow-up study of subjects used in Winterbottom's work found that the children's current test anxiety was related to absence of mothers' early expectations for independent accomplishments, and low achievement motivation when the children

were young. However, current achievement motivation and previous maternal reports of independence training did not show any substantial correlations. Crandall (1960) and Chance (1961) did not find a relationship between independence training and achievement motivation, and Hayashi and Yamaushi (1964) found a negative relationship between the two variables. Bartlett and Smith (1966) found that age of demands for independence was unrelated to achievement motivation, and that mothers of boys who were high on achievement motivation actually made fewer demands for achievement and independence than mothers whose sons were lower on the motive. Heckhausen (1967) points out other factors that may have to be considered in relating independence training to achievement motivation. He feels that independence training can be cold, authoritarian, rejectant; or it can be supportive, warm, and providing a model. The degree of activation and pressure seem to be important. Too much achievement related pressure may lead to dependence and low motivation. Norman's work (1966) suggests that a model may be important in acquiring independence and achievement behaviors. Norman found that fathers of achieving gifted boys and mothers of achieving gifted girls rated high on independence and lower on conformity as compared with parents of gifted underachievers.

From this brief review of recent literature on independence training, it seems quite probable that independence behavior is a more complex variable than has been assumed. Coopersmith (1967, Pp. 216-223) has devoted several pages to a careful analysis of what this concept may entail. Much agreement in research findings cannot be expected in relating independence training to achievement motivation until one recognizes the multi-faceted nature of both of these variables.

The theoretical orientation for the present research was taken primarily from the writings of child development researchers: Pauline Sears, and Virginia and Vaughn Crandall. Sears (1964) considers achievement motivation as part of self-assertion, a motive to enhance and preserve self-esteem (favorable self-concept). Beginnings of the motive are seen in early negativism (Sears, 1957). Achievement motivation develops as the self-concept of competence emerges gradually. A favorable self-concept of competence enables the child to meet new challenges with confidence and to look upon these as chances to enhance self-esteem. Several conditions are necessary for the development of self-esteem. For one, social approval is a necessary ingredient and must accompany the child's successful endeavors in important facets of his experience. In the early grader these facets represent experiences in coping with the real world instead of earlier pure fantasy and play behaviors. Sears (1964) hypothesized that self-esteem of children would be greater after a year in a classroom where the teacher showed relatively more behavior of a rewarding and approving type than in a classroom where the teacher was less rewarding. Chronic absence of social approval from adults may give rise to antisocial behavior as the motive to enhance self-esteem leads to search for other types of social approval from peers or older children. Second, in the process of developing self-esteem, and thus achievement motivation to preserve and enhance self-esteem, the child has to learn his expectancies for success and failure for various types of tasks. Once the child has learned relatively accurate expectancies, he can then make predictions about the outcomes of his behavior. Then, to preserve and enhance his self-esteem, he can favor and work hard expecting success and approval at those tasks which are consonant with his ability and skill.

Past research supports the main tenets in Sears' theoretical thinking. Brookover, et al. (1964) report a positive correlation between self-concept and academic performance in seventh graders even with I.Q. controlled. The authors report that specific self-concepts of ability (competence) were related to specific areas of academic performance. Furthermore, self-concept correlated positively with perceived evaluations of the child by significant others. Minuchin and Moldowski (1964) report that high achieving girls rated themselves more realistically than low achievers. Fink (1962) reports that judges were able to pick out underachievers from freshmen high school students on the basis of observed negative self-concepts. Borislow (1962) failed to find differences between achievers and underachievers in college students on the basis of general self-evaluation. However, underachievers had poorer conceptions of selves as students. In a study on the effects of classroom conditions on the strength of achievement motive and work output, favorable self-concept correlated low but relatively consistently with achievement motivation (Sears, 1963). To illustrate effects of possible lack of social approval for academic efforts, Werner (1966) found that personality profiles of underachieving boys resembled those of delinquents and conduct problem children. To illustrate the importance of peer influence, Kipnis (1961) reports that self-concepts changed more in line with those of friends. Further support of relationships between achievement motivation and self-perception beyond childhood has been offered by Martire (1956) and Reimanis (1964) showing that achievement motivation is related to the size of discrepancy between self-ideal and self ratings. Katz (1967) reports that self-image disparity increased with age and intelligence. The increase in disparity was due to both a decrease in self-evaluation and increase

in ideal-self image, suggesting that as the child learns his expectancies he adjusts or re-evaluates his abilities more realistically. At the same time, it appears, that the child gains more confidence in himself as his self-esteem develops and he sees his future accomplishments and image on a higher level. Heilbrun, et al. (1966) studying college males interpret their findings as suggesting that goal-setting was less stable in males who felt that their mothers rejected them and thus had lower self-esteem.

Further, supporting the view that learning of expectancies is related to achievement behavior, Battle (1966) reports that grade expectancy in junior high school students was a better predictor of achievement than I.Q. There is also research in the literature suggesting that the amount of discrepancy between the child's present performance and his anticipated higher performance is an important variable in the development of the self-concept of competence and achievement motivation. Too much disparity may lead to frequent failure and increased anxiety while some anxiety may be necessary to motivate behavior. Cowen, et al. (1965) have shown a positive relationship between anxiety and self-ideal self discrepancy in children. Stevenson and Kennedy (1965) assuming that failure increases anxiety have shown that children after failure performed better without adult social reinforcement than with it, suggesting that social reinforcement reduced anxiety and performance rate. Feather and Saville (1967) have shown that prior failure has a negative effect on task performance. Weiner's findings (1965), however, showed that subjects high on achievement motivation worked harder after failure than after success. For those low on the same measures the opposite was true. Unruh (1966) suggests that to induce highest levels of performance one must search for optimum

levels of anxiety. Raynor and Smith (1966) report a positive relationship between achievement motivation and preference in college students to chose skill tasks of intermediate risk. Morris (1966), in the same way, found that high school seniors high in achievement motivation chose vocations involving intermediate degree of risk. These studies are consistent with Unruh's suggestions if one assumes that tasks of intermediate risk quality also present intermediate amounts of anxiety.

A somewhat similar theoretical orientation to that of Pauline Sears has been followed by Crandall and associates (1963). Crandall, however, has followed a different approach than previous investigators in measuring the dependent variable. Instead of using projective devices to infer motivational dispositions, Crandall uses measures of achievement related activity obtained by direct observations of behavior. Achievement related activity is defined as "behavior directed toward the attainment of approval or the avoidance of disapproval for competence of performance in situations where standards of excellence are applicable." (Crandall, et al., 1960[b], p. 789). Further, Crandall distinguishes between various specific achievement activity areas which may be affected differently by the various independent variables or antecedent conditions. The achievement areas are: a) intellectual, b) physical skills, c) artistic-creative, and d) mechanical.

Crandall's method of treating the dependent variable has several advantages over the McClelland and Atkinson type, especially in investigating the development of striving for achievement activity. First, it permits one to measure the predicted behavior directly rather than by assessing the cognitive state or tendency through verbal reports of imagery, and then assuming that the scored content of imagery predicts actual striving for achievement behavior. Second, Crandall's approach

permits one to explore specific achievement activity areas that in some combination may relate to one's overall tendency to show achievement striving. This approach may help to solve some of the problems encountered in using the global concept of achievement motivation. For one, there are numerous projective methods of assessing achievement motivation that independently have been shown to predict achievement behavior, yet they do not show any substantial or consistent inter-correlations (Atkinson, 1958). Secondly, achievement imagery has not always been a good predictor of academic achievement. Minuchin and Moldowski (1964) report that in their study achievement fantasy was highest for low achieving girls although the difference was not significant. It is quite possible that a high achievement imagery score could be the result of a tendency for achievement striving in physical skills and may not necessarily predict academic achievement. Thirdly, in studying the psycho-social origins of achievement motivation, it may help to shed more light on the complex interactions that one finds between achievement motivation and various psycho-social variables (Rosen, et at., 1959; Rosen, 1961).

The development of achievement striving or motivation is seen by Crandall as an interaction between maturational factors where "genetically prior need systems" give rise to a need for achievement (Crandall, et al., 1960b), and social learning where persistence and achievement striving develop as individual differences through social reinforcement (Crandall, et al., 1960a). In Crandall's conceptual formulations and empirical work social approval as a reinforcement agent has been given a key role. Other investigators consider the theory as based entirely on social learning principles (Heckhausen, 1967). Crandall (1963) assumes that the child gains a personal satisfaction, a feeling of security from social approval.

When the child notes that social approval accompanies achievement behavior, he wants to engage in achievement behavior in order to obtain social approval. In chronic absence of social approval the child may seek other means of social need satisfaction. Increased dependency behavior might be one such result. In the presence of predictable approval and disapproval for achievement behavior, resulting from consistency in adult reactions, the child forms a feeling that he can control his own reinforcement: he has developed internal reinforcement control. In the absence of internal reinforcement control, the child fails to associate social approval with his own behavior and may believe that approval comes haphazardly independent of his own efforts. In such a case the child will fail to develop a strong tendency for achievement behavior. Finally, in the process of development, as social approval repeatedly accompanies achievement behavior, achievement behavior can become functionally autonomous. That is, achievement behavior itself can take on a reinforcing or rewarding capacity. Once functional autonomy for achievement behavior has been reached, the person would be expected to show high levels of achievement striving without the presence of social approval.

Crandall's formulations have received considerable amount of research support and they are in accord with other theoretical thinking in child development and personality. The value of social approval as an important reinforcing agent in social learning has been recognized for many years. Adler (1939) speaks of development of social interest as an important step in social learning resulting from a warm supportive home environment. Deficiency in developing social interest due to inconsistency or lack of social approval may lead to social disorganization or anomie (Reimanis, 1966). There has been much behavioristically oriented research

pointing out the value of social approval as reinforcement in operant conditioning (Harris, 1967a, b; Allen, 1967; Hall, 1967). Crandall, et al. (1960a) have shown that mother's rewards of approval seeking and achievement efforts in nursery school children were related to persistence in achievement striving. The importance of expected adult verbal reactions to a child's performance has been shown by Virginia Crandall (1963, 1964) by observing the effects of non-reaction. The latter produced effects on the child's achievement expectancy that were usually opposite to those produced by preceeding positive or negative verbal reactions.

Other work by Crandall and associates has shown that high achieving children were less dependent on adults for emotional support and help at home and in nursery school (1960a), and that increased social desirability behavior accompanied low achievement striving (1966). In the same way Smelson (1966) reports that achievement motivation was weakly but negatively related to conformity. Smelson notes that in conflict situations a strong motivation may induce conformity with the majority in order to satisfy the desire to be correct. Davids (1966) reports that high achieving boys and girls of high school age tended to have higher achievement motivation, dominance, endurance, and self-assurance. Underachievers showed a greater need for heterosexual activity and succorance. In the same way Reimanis (1967) showed that below average college freshmen engaged in significantly more dating behavior than above average freshmen. Crandall (1966) explains why the results in studies of achievement behavior and social needs do not follow Marlowe and Crown's suggestion that strong social desirability tendencies should be evidence of a need for social approval. Crandall suggests that social desirability behavior seems to be designed to avert disapproval rather than to attain approval. Crandall's

research has shown that high social desirability children are less participative, of low self-esteem, and lacking confidence. They are very concerned with, and perhaps fearful of, others' evaluations and are suggestible and conventional.

Research by Moss and Kagan (1961) has offered support for Crandall's conceptualization concerning the very early development of achievement striving. The authors have shown that there is a low but relatively consistent positive relationship between a child's achievement striving in nursery school and elementary school, and elementary school and adolescence. The first three years of life were unrelated to later measures of achievement striving. These findings suggest that some basic individual differences are becoming established by the time the child is four or five years old. On the other hand, the fact that the correlations were low suggests that important changes continue to take place at least during the early school years. Other studies show that environmental factors continue to be important determinants of occupational aspirations at high school age (Boyle, 1966; Stevic & Uhlig, 1965).

Finally, there has been research and conceptual support for Crandall's proposition that internal reinforcement control is an important variable in studying the development of achievement behavior. Rotter (1962) has discussed this variable as an important one in behavior theory in general. He points out that feelings of external control of reinforcement are closely connected with alienation. The locus of reinforcement control is a key concept in Thibaut and Kelley's theory of social interaction (1959). Chapman (1960) in reviewing Thibaut and Kelley's book remarks that feelings of fate control (external reinforcement control) place the individual in a continuous state of flux and anomie. Jersild (1955) looks at the lack of internal

reinforcement control as giving rise to meaninglessness and despair in the classroom. In the same way, Jackson (1965) relates the concept to feelings of alienation in the classroom. Crandall, et al.(1965) found that some intellectual achievement responsibility (internal reinforcement control) is established by the time the child is in the third grade. The authors found a relatively consistent relationship between intellectual achievement responsibility and academic achievement, amount of time spent in intellectual activity during free play, and intensity of striving in intellectual activities. There were also predictable changes with age. In the same way Battle (1965) reports that inner-directed high school students showed more persistence at math problems than those who were other directed.

Summarizing the theoretical and empirical literature on the development of achievement striving, there seem to be five steps that are important in the child's socialization process. The steps, presented below, may not be always consecutive or mutually exclusive.

1. Development of striving for social approval. In the presence of social approval the child has a feeling of satisfaction and security. Social dependency and social desirability behaviors may increase in absence of conditions that permit the development of striving for social approval to take place.

2. Development of achievement striving to obtain social approval and avoid disapproval. Through selective social approval of achievement striving the child learns to engage in achievement behavior to gain social approval. This step involves learning of what is meant by achievement behavior. That is, standards of excellence and competence are involved. In the absence of social approval for achievement striving, the child may seek other means, such as anti-social behavior to obtain approval from peers or older children.

3. Development of feelings of internal reinforcement control. In a consistent home and school environment the child learns what behaviors lead to approval and what lead to disapproval. In the absence of consistency with respect to behavior consequences the child may develop a feeling of despair, meaninglessness, or alienation in the home or classroom as attempts to multiply one's pleasant experiences and avoid the unpleasant ones become chronically frustrated.

4. Development of task expectancy. Through experience the child learns at what tasks he may expect success and what tasks may lead to failure. Until the child learns with some accuracy what his task expectancies are, he cannot increase his success experiences and self-esteem by selecting tasks that are challenging but still consonant with his abilities.

5. Development of functional autonomy for achievement striving. The child who has been successful in meeting the previous four steps in his socialization process may internalize through identification or imitation the reinforcing capacity of social approval for achievement striving. Achievement striving can then be pursued for its own reinforcement value without expectations of overt social approval. This last step is perhaps the ideal state in personality development and may be similar to Maslow's concept of self-actualization. However, the progress in developing functional autonomy for achievement striving could be seen in children who begin to show the capacity to be able to postpone social approval or gratification following successful task efforts.

Hypotheses

The present study focused on the development of achievement striving during the period when the socialization factors outside the home become increasingly more important and when the child is called on more and more often to cope with reality rather than with fantasy and play. The kindergarten was assumed to be the first step for most children in becoming exposed to socialization factors outside the home, and thus important in the development of achievement striving behavior.

The main hypothesis was that changes in the ratio of teacher's approval over disapproval of kindergarteners' achievement behavior will have an effect on the children's subsequent achievement striving. The effect was expected to vary depending on the child's socialization progress with respect to the outlined five steps.

More specifically, it was predicted that:

1. For kindergarteners who possess a feeling of internal reinforcement control with respect to achievement behavior and social approval, changes in achievement striving will be positively related to changes in the ratio of teachers' approval over disapproval for achievement behavior.

2. For children who have not developed an adequate feeling of internal reinforcement control with respect to achievement behavior and social approval, no consistent relationship between the independent and the dependent variables will be observed. Such children, first of all, may not have learned to expect and enjoy approval or success as a result of their own achievement efforts. They need not only a taste of success or social approval, but they have to learn that success or social approval can be enjoyable. In this case, no relationship between the independent and dependent variables was expected. It seems that here a prolonged

consistent environment with social approval accompanying achievement behavior is necessary to produce noticeable changes. Second, children low on internal reinforcement control may be in a confused state in associating good achievement efforts with approval as well as with disapproval. They may fear what Otto (1965) describes as expecting reprimand for past poor performance if their performance were to increase in quality. For them achievement efforts may bring about initial social approval, but along with it an expected: "I told you, you could do better if you only tried harder." In this case a negative relationship between the two variables was expected, providing that some amount of initial achievement striving was present. Social approval for achievement efforts was assumed to be indicative to the children that reprimand may follow. To avoid reprimand the children will decrease their achievement efforts and receive either no reaction or some disapproval, but no reprimand for their past behavior. Third, lack of internal reinforcement control may have deprived the children from more mature social need satisfaction, and they may continue to have a strong need for social dependency. Poor achievement may continue in a way to satisfy their need for dependency. Evidence of more mature social approval of achievement behavior may be seen as a threat to the dependency relationship. In this case again a negative relationship between the independent and dependent variables was expected as increase in social approval may bring about undesirable results for the child. The children in the last two conditions may have learned that there is consistency in the environment, but in their case achievement striving may bring about expectancy of undesirable results.

In general, children low on internal reinforcement control and children high on dependency were expected to be low on achievement striving. Dependency

behavior, along with lack of internal reinforcement control, were considered as indicators that the child has not been successful in learning to gain social approval and avoid disapproval through achievement efforts.

A final prediction, dealing with functional autonomy for achievement striving, was not tested by the present research. Kindergarteners were not expected to have reached any significant degree of functional autonomy. Therefore, only a brief discussion of the prediction is included. For children who have reached the stage of functional autonomy an inverted U relationship between social approval and achievement striving is predicted. It is assumed that such children show much achievement striving that warrants frequent social approval. Social approval in this case may still serve as a cue that the behavior is acceptable. However, as the frequency of social approval increases beyond a certain point, it may lead to a type of satiation and a search for other more fascinating or more challenging experiences or reinforcers. Or, it may give rise to over-confidence and expectations not consonant with one's ability. This may give rise to a sudden accumulation of failure experiences and a temporary state of uncertainty followed by re-evaluation of one's standards and abilities.

Method

Forty-five boys in four kindergarten classes were used as subjects. Two from a total of forty-seven boys were excluded. One was eliminated because of a chronic heart ailment which gave rise to frequent absences; the other one was transferred to a different school while the study was in progress. Only boys were selected as subjects to control for the sex variable. Most of the children came from average income homes with fathers engaged in skilled and semi-professional occupations.

The data on the independent and dependent variables were collected through direct observations in the classroom over a period of four weeks. Each class was observed for one hour on Mondays, Wednesdays, and Fridays. Two of the classes, one in the morning and one in the afternoon, were taught by a male and two by a female teacher. The observation times were staggered to permit the observation of an equal number of first hour and second hour class activities in each class. After an initial period of learning the boys' names and pre-testing the observation procedures, the observer (writer) seated himself in an inconspicuous place from which he could observe the entire classroom. When the children moved out of doors a new position was assumed near the children. The observer was introduced to the classes as someone who is interested in children and who would like to spend some time in the class. Throughout the observations an eye-to-eye contact with the children was avoided. During the forty-eight hours of observation there were only five attempts by the children to interact with the observer. It is assumed that the observer had little if any effect on the children's behavior. A friendly relationship was established with the teachers before the observations began. There was practically no interaction between the observer and the teachers during observations, and it appeared that the observer's presence had practically no effect on the teachers' behavior in the class.

Independent variables

Data on the independent variable consisted of teacher's reactions to the boys' achievement behavior whenever it occurred. The achievement behavior was classified into intellectual, creative-artistic, mechanical, and physical areas. The criteria for classification were the same as used by Crandall and associates

(Crandall, 1963; Rabson, 1966). They are not discussed in greater detail because all areas were not adequately represented to treat them separately in data analysis. To obtain the teacher's approval and disapproval scores the child's performance was first rated in terms of its importance on a scale from one to three. The significance of important and reality-oriented tasks was discussed under Sears' theory. A rating of one was given if the child's response was minimal, such as agreement or disagreement with a statement. A rating of two was assigned if the response was somewhat more involved, such as telling what day of the week it will be tomorrow or telling which object of a group of five has been hidden. A rating of three was assigned if the child's performance was considerably more involved, such as counting all of the children in the class or simulating the reading of a story in front of the other children. Second, the teacher's response was rated in terms of approval, disapproval, or no response. The ratings were from -1 to +3, from disapproval to high praise of performance. Disapproval was not differentiated into degrees, since in today's kindergarten classes it was not expected that the teacher would emphasize how poorly the child's performance had been. Ratings of -.5 and +.5 were assigned if the teacher showed no response but it was obvious to the child that his performance was not adequate in the first case, or was adequate in the second case. A zero rating was given if the teacher did not respond and there was no indication whether the child's performance had been acceptable or not. The actual approval and disapproval scores, computed separately, were the products of the importance ratings and the ratings of the teacher's approval or disapproval response. Records were also obtained to indicated who was the initiator of the teacher-pupil interaction.

Dependent variables

The method of recording achievement striving behavior was similar to that used by Crandall and associates (Rabson, 1966). In the present study each child was observed for twenty-second time periods during assigned achievement activities or during a free-work or play period. Each observation period was only twenty seconds long in order to permit several observations of each child during each free work or assigned activity period. This also insured that each child would be observed at least once if the work period was a brief one. During pilot work it seemed that various lengths of observation periods did not produce noticeably different results of the children's achievement striving behavior. The order in which the subjects were observed was determined randomly. As the subject was being observed the particular achievement area, i.e., intellectual, creative, mechanical, or physical was noted. There will be no further discussion of the separate achievement striving areas since they are not differentiated in the data analysis. It seemed that far too often the teacher influenced the children in choosing their activity; thus, the children's activities could not always be used as indicators of their interest.

Achievement striving was rated on a scale from zero to three. No evidence of achievement striving received a rating of 0; some striving, but less than half of the observation period was rated as 1; achievement striving during more than half, but not the whole period was rated as 2; and complete absorption in the task without showing any distractibility during the twenty-second period was rated as 3.

At the end of the study the teachers were requested to rate each child on a scale from one to four, in terms of how much internal reinforcement control the child seemed to possess with respect to achievement behavior and social approval.

In testing the hypotheses these ratings were used to establish a cutting point and identify those children who were low on internal reinforcement control and those who were high.

Teachers' ratings were also obtained at the beginning and at the end of the study on children's achievement striving, dependency behavior, and need for teacher and peer approval.

Results

Each subject's scores on the independent and dependent variables were averaged for each day and summed separately for the first two-week and the second two-week observation periods. To test the main hypotheses changes in these variables were assessed from the first to the second two-week period. The two week period was an arbitrary way of dividing the study into two halves. To arrive at the approval over disapproval ratios, a numeral of one was added to both the numerator and denominator in order to eliminate the several instances of a zero denominator in cases where the teacher had shown no disapproval reactions. Each day's approval rating multiplied by the task importance rating was then divided by the disapproval rating times importance to obtain the measure of the independent variable.

To test the first hypothesis, that is, for children who possess a feeling of internal reinforcement control, changes in achievement striving will vary positively with the changes in the ratios of approval over disapproval, teachers' ratings were used to obtain thirty-three children who possessed internal reinforcement control most of the time or always (high IRC). There were twelve children who were rated as showing internal reinforcement control only some of the time or never (low IRC).

The first hypothesis was supported by obtaining a Pearson product-moment correlation coefficient of +.52 ($p < .005$, N=33) between the changes in the approval over disapproval ratios from the first two-week period to the second, and the changes in achievement striving from the first to the second two-week period. The r was computed between the arithmetic differences of the first minus the second period scores. The difference scores were relatively normally distributed; the means closely approximated the medians. When the low IRC group was not excluded, the r decreased to +.38 ($p < .02$, N=45). There seemed to be no differences on whether the child or the teacher initiated the achievement behavior for which he received approval or disapproval.

The data showed some support for the second hypothesis. For the low IRC group there was a correlation of -.59 ($p < .05$, N=12) between the independent and dependent variable changes from the first to the second two-week period. In this instance the approval over disapproval ratios increased significantly for the whole low IRC group. The means were 15.58 and 20.42 for the first and the second two-week period respectively. The mean difference was significant at the .05 level (t=2.60). At the same time all of the twelve subjects decreased in their achievement striving. The mean decrease was from 8.67 to 5.92, significant at the .001 level ((t=5.61). There were not sufficient data to subdivide the low IRC subjects into the three types of cases discussed under the second hypothesis.

A direct relationship between the approval over disapproval ratios and the achievement striving scores was not predicted since such a relationship would not take into account individual differences. That is, the same amount of social approval may not necessarily have the same meaning for different children due to varied

past experiences with social approval and achievement striving. Some relationship, however, was evident between the two variables. For the first two-week period the correlations were +.52 ($p < .005$) and +.21 (n.s.) for the high and low IRC groups, respectively. For the second period the correlations were much lower and not significant.

The data analysis showed some consistency in the scores from the first to the second period for both achievement striving and approval over disapproval ratios. Achievement striving, although it decreased significantly for the low IRC group, showed an r of +.82 ($p < .001$, N=12) between the first and the second period. For the high IRC group the means did not differ significantly and there was a non-significant correlation of +.15 with an N of 33. The approval over disapproval ratios correlated significantly between the first and the second two-week period. The correlation coefficients were +.60 and +.69 for the high and low IRC groups, significant at the .001 and .02 levels, respectively.

The prediction that low IRC children would be lower on achievement striving was not supported. The mean for the low IRC group for the first two-week period (8.67) was actually higher than that for the high IRC group (7.33) although the difference was not significant. For the second two-week period the mean for the high IRC group was higher than that for the low group, 6.69 as compared to 5.92, but again the mean difference was not significant.

The prediction of a negative relationship between dependency and achievement striving was supported. t-values of 5.14 ($p < .001$, N=45) and 2.92 ($p < .01$, N=45) were obtained for the first and second two-week periods, respectively, when achievement striving data were subdivided into low and high dependency groups

using a median cutting point on the teachers' ratings of dependency behavior. During the first period the approval over disapproval ratio was also lower for the high dependency group. The means were 17.12 and 25.60. The difference, however, was not significant. There were no apparent differences between the means during the second period. The means were 23.15 and 20.24 for the low and high dependency groups, respectively.

Even though both teachers appeared to be equally dedicated and quite competent individuals, inspection of the data revealed a number of differences between the classes of the two teachers. The female teacher(henceforth referred to as room 1 teacher) seemed to be less nurturant and less encouraging of dependency behavior, but at the same time was more supportive of the children's achievement efforts and accomplishments, as compared to the male teacher (room 2 teacher), who was quite affectionate, nurturant, encouraging dependency, but generally less supportive of achievement efforts. Further analysis of the data supported some of these observations. The mean approval over disapproval ratio was higher for room 1 during the first two-week period, although the difference was significant only at the .10 level ($t=1.99$). The means were 26.00 and 16.17 for room 1 and 2, respectively. During the second two-week period approval over disapproval behavior showed no differences. The means were 22.23 and 21.00 for room 1 and 2, respectively. The achievement striving scores, however, were significantly higher for room 1 than room 2 during both two-week periods. For the first period the means were 9.41 and 6.09 ($t=4.73$, $p < .001$, $N=45$), and for the second period they were 7.32 and 5.65 ($t=3.55$, $p < .001$, $N=45$). A Chi Square comparison using a median cut also supported the observation that room 2 teacher perceived the

children in his class as showing more dependency behavior. For the first two-week period the Chi Square was 18.78, df=1, N=45, and during the second period the Chi Square was 24.35, df=1, N=45. Both values were significant beyond the .001 level.

No significant relationships were obtained between the teachers' ratings of achievement striving, the child's desire for teacher or peer approval, and the observed achievement striving. The teachers' ratings on these variables were highly skewed and showed little variance. Finally, there appeared to be no differences between the children in rooms 1 and 2 on age, socio-economic and family background variables.

Discussion

The results supported the first hypothesis derived primarily from Crandall's and Sears' theoretical writings. For the children possessing feelings of internal reinforcement control (IRC) changes in teachers' approval over disapproval ratios for achievement efforts were accompanied by predictable changes in achievement striving behavior. The independent and dependent variables had about thirty per cent of variance in common. The shared variance decreased to fourteen per cent when the low IRC children were included in the r computation. It may be stated, thus, that once the IRC is established, increase in teacher's approval of a child's achievement efforts will be accompanied by an increase in the child's achievement striving. There seemed to be no difference in whether the child chose the achievement activity for which he received approval or whether the teacher initiated the activity. The results suggest that an increase in kindergarteners' achievement striving could be brought about by careful planning on the part of the teacher to

provide the child with tasks consonant with his ability and stimulating enough to elicit the child's achievement efforts and accompany these by social approval.

The data also showed some support for the second hypothesis, suggesting that children, who were low on IRC but showed some amount of initial achievement striving, decreased in achievement striving behavior as the approval over disapproval ratio increased. It was assumed that among the low IRC children there would be those who had not learned to enjoy social approval or the feeling of success as a result of achievement efforts; those who expected reprimand for past poor achievement behavior as a result of present good achievement efforts; and those who perceived the more mature social approval for achievement striving as threat to their dependency relationship with the teacher. It was not expected, however, that the low IRC group would have equally high achievement striving scores during the first observation period as compared with the high IRC group. During the second two-week period the low IRC children were somewhat lower on achievement striving than the high IRC group. It may be possible that, since the teachers rated the children on IRC at the end of the four week study, the children's behavior during the last two weeks influenced their IRC ratings. During the last two weeks the low IRC children decreased significantly in their achievement striving as compared to the first period. As a matter of fact, every child in the low IRC group decreased in achievement striving during the second period. In addition, the approval over disapproval ratio actually increased signficantly during the second period. That is, the teachers could have noted that for these children achievement striving decreased during the second period even though they were given more approval. The teachers could have used this unexpected observation

as indicating that IRC was lacking. It will be remembered, however, that the teachers' perception of the children's achievement striving was not related to the achievement striving ratings obtained by the observer. In addition the teachers did not rate the low IRC group as lower on achievement striving during the first or the second two weeks as compared to the high IRC.

If the teachers' ratings of IRC can be accepted as approximating the internal reinforcement control discussed in the introduction, then the present results may support the views expressed by Jersild (1955), Jackson (1965), and Otto (1965) suggesting that the child's achievement behavior in the classroom can be hindered greatly by not having acquired a feeling of knowledge in terms of exactly what rewards may accompany what behaviors in the classroom. The lack of IRC may be a very important problem that the teacher has to face and one of the most important problems that the child should be helped to overcome. This may be especially true with children coming from minority or lower class groups, or groups with relatively disorganized home environments. The former two because the social values may be different at school from those at home, and, although the child has acquired a feeling of conistency in his environment at home, the school's environment may be sufficiently different to confuse him. The latter, because here the child may have failed altogether to experience a consistent social environment and he has to learn IRC from the beginning. In the same way, it seems important that the teachers know what behaviors on their part may be reinforcing and what may be undesirable to the children. There were not sufficient data to test the expectancy that children from broken homes, lower class, or minority groups would have more of a tendency to show lack of IRC. In the same way adequate

comparisons could not be made between the IRC ratings and actual academic achievement. No reliable data could be obtained on the kindergarteners' academic achievement after only about half a year of school experience. From general teachers' observations it seemed that there were proportionally more under-achievers in the low IRC group than in the high IRC group.

The data gave some indication that social approval may be in general related to achievement striving. A direct relationship between the two variables was not predicted since such a relationship would not take into account individual differences with respect to the variables. The two variables, however, correlated positively at least for the first two-week period. Comparing the two variables, the approval over disapproval ratios showed more consistency from the first to the second two-week period. The approval ratios correlated positively and significantly for both high and low IRC groups, while achievement striving scores correlated significantly only for the low IRC group. This finding may suggest that by the middle of the school year the kindergarten teachers had established relatively consistent patterns with respect to how much approval proportionally each child receives, or other patterns were present that gave rise to consistent amounts of approval worthy achievement behavior by the children.

The finding that achievement striving during the first and second observation period was significantly lower for children who were rated by the teachers as more dependent is consistent with Crandall's view suggesting that lack of achievement striving to gain social approval may lead to other less mature means for social need satisfaction, such as dependency behavior. Further analysis, however, showed that room 2 teacher rated the children as more dependent, gave them somewhat less

approval for achievement efforts at least during the first observation period; and room 2 children were also lower on achievement striving as compared to room 1. The question arises: Were the children actually more dependent in room 2 than in 1, or were the teachers' perceptions only different? It seems more plausible to assume that room 2 teacher perceived kindergarteners in general as more in need of dependency and as a consequence supported more dependency behavior as compared to room 1 teacher. Informal observations and notes on child behavior in the two rooms support the assumption. It was not unusual in room 2 that a child, after being incorrect in his answer or after being reprimanded, would seek and receive physical contact and affection from the teacher. The child would be usually allowed to sit on the teacher's lap and discuss his problems. It will be recalled that from informal observations the teacher in room 2 also appeared more nurturant, affectionate, but less supportive than the teacher in room 1. It seems less likely that the children in room 2 just happened to be more dependent than in room 1. There were no differences between room 1 and 2 on variables, such as age, socio-economic status or other background variables.

The relationships between social approval of behavior efforts in the specific achievement areas, i.e., intellectual, creative, mechanical, and physical, and achievement striving in these specific areas could not be examined. There was not adequate representation of the various areas. The observed activity was primarily in the intellectual and creative areas. During free hours or play periods the child's activity in a particular achievement area could not be looked upon as entirely due to his own choice. Much of the time the teachers made suggestions as to what activities the children might want to pursue. It seemed that some of the children

had rather definite preferences for types of activity, but there were not enough data to subject this observation to a statistical analysis.

Summary

The present study investigated relationships between teachers' approval of achievement efforts and achievement striving behavior in male kindergarteners. Kindergarteners were chosen as subjects since the study focused on a stage in social learning when the child begins to become exposed to socialization factors outside his home. After a discussion of the major writings on the development of achievement behavior, several predictions were presented primarily within the framework of Crandall's and Sears' theoretical views.

Direct behavior observation in the classroom was used to collect data on the independent and dependent variables. Forty-five boys and two teachers were observed over a four week period. The data supported the first hypothesis. Changes in the teachers' approval over disapproval ratios for achievement efforts related positively to changes in achievement striving for children who had acquired a feeling of internal reinforcement control. Changes in the two variables were obtained by subtracting teachers' approval scores and children's achievement striving scores for the second two weeks of the study from those obtained during the first two weeks. The second hypothesis was partly supported. It was predicted that for some children who had not acquired an adequate feeling of internal reinforcement control, a negative relationship between the independent and dependent variables would be observed. It was assumed that in some cases an increase in approval for achievement efforts might be accompanied by an expectancy of reprimand for poor

past performance, or might threaten the dependency relationship that the child had with the teacher. Achievement striving was found to decrease as teachers' approval of achievement efforts increased for all of the children who were low on internal reinforcement control. The prediction that children who were low on internal reinforcement control would show less achievement striving as compared to those high on internal reinforcement control was not supported. The data supported the prediction that children rated as high on dependency would show less achievement striving. Analysis of the differences between the two teachers, however, suggested that the negative relationship between dependency and achievement striving might be partly accounted for by the fact that room 2 teacher perceived the children in his class as more dependent, seemed to encourage more dependency, and showed less approval of achievement efforts than room 1 teacher. Room 2 was also lower on achievement striving as compared to room 1. There were no apparent differences between the rooms on age or other background variables.

Concluding, the study suggested that kindergarteners' achievement striving could be increased by providing opportunities for successful and important achievement efforts and accompanying these with social approval. It was also suggested that a very important task for kindergarten teachers is to assist the children in acquiring internal reinforcement control.

References

1. Adler, A. Social interest. New York: Putnam, 1939.

2. Allen, E. K. Improvement in verbal behavior of two preschool children through systematic social reinforcement. Paper presented at the American Educational Research Association meetings, New York, 1967.

3. Atkinson, J. W. (Ed.) Motives in fantasy, action and society. New York: Van Nostrand, 1958.

4. Atkinson, J. W. and Feather, N. T. (Eds.) A theory of achievement motivation. New York: Wiley, 1966.

5. Bartlett, E. W., and Smith, C. P. Childrearing practices, birth order and the development of achievement-related motives. Psychological Reports, 1966, 19, 1207-1216.

6. Battle, S. Motivational determinants of academic task persistence. Journal of Personality and Social Psychology, 1965, 2, 209-218.

7. Battle, E. S. Motivational determinants of academic competence. Journal of Personality and Social Psychology, 1966, 4, 634-642.

8. Borislow, B. Self evaluation and academic achievement. Journal of Counseling Psychology, 1962, 9, 246-254.

9. Boyle, R. P. The effect of the high school on student's aspirations. American Journal of Sociology, 1966, 71, 628-639.

10. Brookover, B. W., Thomas, and Paterson, A. Self-concept of ability and school achievement. Sociology of Education, 1964, 37, 271-278.

11. Chance, J. E. Independence training and first graders achievement. Journal of Consulting Psychology, 1961, 25, 149-154.

12. Chapman, D. W. Glue for the joints of social psychology. Contemporary Psychology, 1960, 5, 304-305.

13. Coopersmith, S. The antecedents of self-esteem. San Francisco: W. H. Freeman, 1967.

14. Cowen, E. L., Zax, M., Klein, R., Izzo, L. P., and Trost, M. A. The relation of anxiety in school children to school record, achievement, and behavioral measures. Child Development, 1965, 36, 685-695.

15. Crandall, V. C. Reinforcement effects of adult reactions and non-reactions on children's achievement expectations. Child Development, 1963, 34, 335-354.

16. Crandall, V. C. Personality characteristics and social and achievement behaviors associated with children's social desirability response tendencies. Journal of Personality and Social Psychology, 1966, 4, 477-486.

17. Crandall, V. C. Reinforcement effects of adult reactions and nonreactions on children's achievement expectations: a replication study. Child Development, 1964, 35, 485-497.

18. Crandall, V. C., Katkowsky, W., and Crandall, V. J. Children's beliefs in their own control of reinforcements in intellectual-academic achievement situations. Child Development, 1965, 36, 91-109.

19. Crandall, V. J. Achievement. In H. W. Stevenson (Ed.) Child Psychology. The sixty-second yearbook of the National Society for the Study of Education. Chicago, Ill.: University of Chicago Press, 1963, Pp. 416-459.

20. Crandall, V. J., Dewey, R., Katkowsky, W., and Preston, A. Parents' attitudes and behaviors and grade-school children's academic achievements. Journal of Genetic Psychology, 1964, 104, 53-66.

21. Crandall, V. J., Katkovsky, W., and Preston, A. A conceptual formulation for some research on children's achievement development. Child Development, 1960, 31, 787-797.(b).

22. Crandall, V. J., Preston, A., and Rabson, A. Maternal reactions and the development of independence and achievement behavior in young children. Child Development, 1960, 31, 243-252 (a).

23. Davids, A. Psychological characteristics of high school male and female potential scientists in comparison with academic underachievers. Psychology in the Schools, 1966, 3, 79-87.

24. Feather, N. T., and Saville, M. R. Effects of amount of prior success and failure on expectations of success and subsequent task performance. Journal of Personality and Social Psychology, 1967, 5, 226-232.

25. Feld, S. Studies in the origins of achievement strivings. Unpublished doctoral dissertation. University of Michigan, 1959.

26. Fink, M. B. Self-concept as it relates to academic underachievement. California Journal of Educational Research, 1962, 13, 57-62.

27. Hall, V. R., Lund, D., and Jackson, D. Effects of teacher attention on study behavior. Pre-publication draft for Journal of Applied Behavior Analysis, 1968, April.

28. Harris, F. The use of reinforcement principles with nursery, preschool, and kindergarten children. A paper delivered at the American Educational Research Association meetings, New York, 1967.

29. Harris, F. Socialization of young children. Paper presented at the Annual meeting of the American Sociological Association, Long Beach, California, 1967.

30. Hayashi, T., and Yamaushi, K. The relation of children's need for achievement to their parents' home discipline in regard to independence and mastery. Bulletin, Kyoto Gakugei University, 1964, 25, 31-40.

31. Heckhausen, H. The anatomy of achievement motivation. London: Academic Press, 1967.

32. Heilbrun, A. B., and Orr, H. K. Perceived maternal child-rearing history and subsequent motivational effects of failure. Journal of Genetic Psychology, 1966, 109, 75-89.

33. Jackson, P. W. Alienation in the classroom. Psychology in the Schools, 1965, 2, 298-308.

34. Jersild, A. T. When teachers face themselves. New York: Columbia University Press, 1955.

35. Katz, Phillis, and Zigler, E. Self-image disparity: a developmental approach. Journal of Personality and Social Psychology, 1967, 5, 186-195.

36. Kolb, D. Achievement motivation training for underachieving high-school boys. Journal of Personality and Social Psychology, 1965, 2, 783-792.

37. Martire, J. G. Relationship between the self concept and differences in the strength and generality and achievement motivation. Journal of Personality, 1956, 24, 364-375.

38. McClelland, D. C. The achieving society. Princeton, N. J.: Van Nostrand, 1961.

39. McClelland, D. C. Toward a theory of motive acquisition. American Psychologist, 1965, 20, 321-333.

40. McGhee, P., and Teevan, R. The childhood development of fear of failure motivation. Paper presented at the American Psychological Association meetings, Chicago, 1965.

41. Minuchin, P., and Moldowski, T. Achievement in school. In P. Minuchin and E. Shapiro Patterns of mastery and conflict resolution at the elementary school level. Cooperative Research Project #1401, Bank Street College of Education, N. Y., 1964.

42. Morris, J. L. Propensity for risk taking as a determinant of vocational choice: an extension of the theory of achievement motivation. Journal of Personality and Social Psychology, 1966, 3, 328-335.

43. Moss, H. and Kagan, J. Stability of achievement and recognition seeking behavior from early childhood through adulthood. Journal of Abnormal and Social Psychology, 1961, 62, 504-513.

44. Norman, R. The interpersonal values of parents of achieving and nonachieving gifted children. Journal of Psychology, 1966, 64, 49-57.

45. Otto, W. Yes, Virginia, there is an achievement dilemma. Psychology in the Schools, 1965, 2, 329-333.

46. Rabson, A. Rating manual for Fels nursery school and day camp behavior variables. Fels Research Institute for the Study of Human Development, Yellow Springs, Ohio, 1966.

47. Raynor, J. O., and Smith, C. P. Achievement-related motives and risk-taking in games of skill and chance. Journal of Personality, 1966, 34, 176-198.

48. Reimanis, G. Disparity theory and achievement motivation. Journal of Abnormal and Social Psychology, 1964. 69, 206-210.

49. Reimanis, G. Childhood experience memories and anomie in adults and college students. Journal of Individual Psychology, 1966, 22, 56-64.

50. Reimanis, G. Value, interest, and aspiration change, and their relationship to academic success in community college students. Technical Report, College Center of the Finger Lakes, Corning, N. Y., 1967.

51. Rotter, J. B., Seeman, M., and Liverant, S. Internal versus external control of reinforcement: a major variable in behavior theory. In N. F. Washburne (Ed.) Decisions, values, and groups. New York: Pergamon Press, 1962. Pp. 473-516.

Rosen, B. C. Family structure and achievement motivation. American Sociological Review, 1961, 26, 574-585.

53. Rosen, B. C., and D'Andrade, R. The psychosocial origins of achievement motivation. Sociometry, 1959, 22, 185-218.

54. Sears, P. S. Problems in the investigation of achievement and self-esteem motivation. In M. R. Jones (Ed.) Nebraska Symposium on Motivation. 1957, 5, 265-338.

55. Sears, P. S. The effect of classroom conditions on the strength of achievement motive and work output on elementary school children. Cooperative Research Project, C. E. No. 873 Stanford University, 1963.

56. Sears, P. S., and Sherman, V. S. In pursuit of self-esteem. Belmont, Calif.: Wadsworth Publishing Co., 1964.

57. Smelson, F. The relation of achievement and affiliation motives to conforming behavior in two conditions of conflict with a majority. In J. W. Atkinson (Ed.) Motives in fantasy, action, and society. New York: Van Nostrand, 1958. Pp. 421-433.

58. Stevenson, H. W., and Kennedy, H. T. The effects of social reinforcement and non-reinforcement following success and failure. Journal of Personality, 1965, 33, 418-427.

59. Stevic, R., and Uhlig, G. Occupational aspirations of selected Apalachian youth. Personnel and Guidance Journal, 1967, 45, 435-439.

60. Thibaut, J. W., and Kelley, H. H. The social psychology of groups. New York: Wiley, 1959.

61. Unruh, W. R. Achievement motivation and test-anxiety in the classroom. Stanford University: The Graduate Review, 1966, 1, 15-24.

62. Veroff, J. Theoretical background for studying the origins of human motivational dispositions. Merrill-Palmer Quarterly Behavior Development, 1965, 11, 3-18.

63. Weiner, B. The effects of unsatisfied achievement motivation on persistence and subsequent performance. Journal of Personality, 1965, 33, 428-442.

64. Werner, E. E. CPQ personality factors of talented and underachieving boys and girls in elementary school. Journal of Clinical Psychology, 1966, 22, 461-464.

65. Winterbottom, M. The relation of need for achievement in learning experiences in independence and mastery. In J. W. Atkinson (Ed.), Motives in fantasy, action and society. New York: Van Nostrand, 1958. Pp. 453-478.

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